

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
Yong Jae LEE

Confirmation No.: 6121

Group Art Unit: 1746

Serial No.: 10/721,247

Examiner: Jason Heckert

Filed: November 26, 2003

Customer No.: 34610

For: DISHWASHER

PRE-APPEAL BRIEF REQUEST FOR REVIEW

U.S. Patent and Trademark Office
Customer Service Window - **Mail Stop AF**
Randolph Building
401 Dulany Street
Alexandria, Virginia 22314

Sir:

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this Request. This Request is being filed with a Notice of Appeal. The review is requested for the reasons set forth on the sheets attached hereto:

Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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PRE-APPEAL BRIEF REQUEST FOR REVIEW –ATTACHMENT

Claims 1-22 are pending.

The Office Action rejected claims 1-11 under 35 U.S.C. §103(a) as being unpatentable over Kendt, in view of Rak, and in view of Golladay et al. (hereinafter “Golladay”); and rejected claims 12-22 under 35 U.S.C. §103(a) as being unpatentable over Rak in view of Golladay. Regarding independent claim 1, the Office Action asserts that “Kendt discloses a dishwasher comprising a housing 11, a tub 12, a spray arm 34, and a water softener 30.” However, the Examiner acknowledges that Kendt does not disclose a water softener that “includes a float and sensor for sensing the concentration of salt water,” but then asserts that Rak discloses such features. Further, the Examiner acknowledges that “[n]either Kendt nor Rak discloses a sensor that detects a distance from the float to the sensor,” but then argues that Golladay discloses such features. The Examiner concludes that “[i]t would have been obvious at the time of the invention, to modify the dishwasher disclosed by Kendt, to include any water softener that was conventionally used, such as that taught by Rak with a float type salt sensor, in order to detect and alarm the user of insufficient brine concentrations,” and that “it would have been obvious to modify Kendt and Rak and include a Hall-effect apparatus, as disclosed by Rak, such as one that measures a location, depth, or distance, as taught by Golladay et al. as it is a known type of Hall-effect apparatus.” Regarding independent claim 12, the Examiner asserts that Rak discloses all of the claimed features except “a sensor that detects a distance from the float to the sensor.”

In the Advisory Action, the Examiner alleges referring to the Abstract, that Golladay discloses a device sensing a location and a depth of a float, which are readable on a distance. However, the device of Golladay includes a tank 1 and a hollow tube 15 arranged vertically within the tank 1. Floats 19, 23 have magnets 21, 25, respectively, and move up and down along

the hollow tube 15 according to a change of liquid level. A sensor card 29 is disposed within the tube 15 so as to reciprocate in a vertical direction. When the sensor 29 moves to the floats 19, 23, it senses the locations of the floats 19, 23 by an interaction with the magnets 21, 25. Therefore, although the device of Golladay could sense the depth of the floats 19, 23 which is then converted to a level of liquid in the tank 1, based on the sensed locations, such a depth is merely a distance from a certain reference position to the floats 19, 23, not a distance from the sensor 29 to the floats 19, 23. More specifically, Golladay senses the depth based on the distance that the sensor 29 travels to the floats 19, 23 within the tube 15. Actually, since the device of Golladay moves the sensor 29 directly to the locations of the floats 19, 23, there is no distance between the sensor 29 and the floats 19, 23 when the device senses the depth. Therefore, Golladay fails to disclose or suggest a sensor that senses a concentration of salt water based on a distance of a float from the sensor and that generates a signal corresponding to the sensed distance, as recited in independent claim 1 and 12.

Further, the Advisory Action refers to recent case law (in particular, KSR International Co.) in arguing that the grounds (i.e. suggestion or motivation) for combining or modifying references would be common sense to a person of ordinary skill in the art, as well as being provided in the references themselves. The Advisory Action then concludes that common sense would have made it obvious to combine known salt concentration techniques or specific gravity techniques (i.e. Golladay) with devices where knowing salt concentration is pertinent (i.e. the device of Rak).

However, as already mentioned above, Golladay primarily discloses a level sensing technique not a salt concentration sensing technique. Further, although Golladay mentions the sensing of specific gravity, such sensing of the specific gravity is based on the sensing of the

liquid level. As is well known in the art, the concentration of a certain material in a liquid and the level of the same liquid are physical properties which are fundamentally distinguished from each other. For example, the concentration of a certain material in the liquid could be changed without an accompanying change of the liquid level. Further, liquids with a different level could have the same concentration of the material. Namely, in any case, the sensing of the level would not represent the sensing of the concentration, and likewise, the concentration would not be directly converted into the liquid level and vice versa.

Therefore, in a substantial aspect, Golladay, related to the sensing of the level, teaches away from the claimed invention and Rak, both related to the sensing of the concentration. For the same reasons, if the level sensing technique of Golladay were to be directly combined with the device of Rak, this would result in a non-workable combination in sensing the concentration. Further, if the teaching (i.e. the level sensing technique) of Golladay were to be modified to be adapted for the sensing of the concentration, such a modification would render Golladay unsatisfactory for its intended purpose of providing an improved level sensing method and device, and also would change a principle of operation of Golladay related with the level sensing. Accordingly, there would have been no motivation or suggestion to make the alleged combination or modification of Golladay and Rak.

Furthermore, without consideration of the deficiencies in the disclosures of the applied references discussed above, a person skilled in the art would instantly recognize from the fundamental difference in properties (i.e. level and concentration) to be sensed that the device and method for sensing the level in Golladay would not be combined with the device for sensing the concentration based on common sense. Rather, contrary to the Examiner's assertion, it

would definitely be common sense not to combine the teachings for sensing the level with the teaching for sensing concentration.

For these reasons, the proposed combination and modification would not have been obvious not only over the applied references, but also in view of the common sense of one skilled in art. Additionally, in light of the disclosures of the applied references and common sense, the proposed combination and modification would be obvious only after considering the teachings of the present application. Accordingly, it is apparent that the Examiner applied impermissible hindsight to the rejections of the present application, and did not consider the invention as a whole.

Thus, for at least the above reasons, the applied references, taken alone or combination, fail to disclose or suggest all of the claimed features of independent claims 1 and 12, and in particular, a sensor provided to the second container to sensor a concentration of the salt water based on a distance of the float from the sensor and generate a signal corresponding to the sensed distance, or the respective claimed combinations recited in independent claims 1 and 12. Further, none of the applied references provides the requisite motivation for combining teachings as asserted by the Examiner, in particular, for modifying Kendt as modified by Rak, or Rak to include the complicated level sensing apparatus disclosed by Golladay.

Accordingly, the rejection of independent claim 1 over Kendt, Rak, and Golladay and independent claim 12 over Rak and Golladay should be withdrawn. Dependent claims 2-11 are allowable over Kendt, Rak, and Golladay at least for the reasons discussed above with respect to independent claim 1, from which they depend, as well as for their added features. Dependent claims 13-22 are allowable over Rak and Golladay at least for the reasons discussed above with respect to independent claim 12, from which they depend, as well as for their added features.